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MICA Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5477

Product Information

Application	WB, IHC-P, FC, IF
Primary Accession	Q29983
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	42915
Isotype	Rabbit IgG
Antigen Source	HUMAN

Additional Information

Gene ID	100507436
Antigen Region	68-97
Other Names	MHC class I polypeptide-related sequence A, MIC-A, MICA {ECO:0000312|EMBL:CAI419071}
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:25 IF~~1:25
Target/Specificity	This MICA antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 68-97 amino acids from the Central region of human MICA.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MICA Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MICA {ECO:0000312|EMBL:CAI41907.1}
Function	Widely expressed membrane-bound protein which acts as a ligand to stimulate an activating receptor KLRK1/NKG2D, expressed on the surface of essentially all human natural killer (NK), gammadelta T and CD8 alphabeta

T-cells (PubMed:11491531, PubMed:11777960). Up- regulated in stressed conditions, such as viral and bacterial infections or DNA damage response, serves as signal of cellular stress, and engagement of KLRK1/NKG2D by MICA triggers NK-cells resulting in a range of immune effector functions, such as cytotoxicity and cytokine production (PubMed:10426993).

Cellular Location

Cell membrane; Single-pass type I membrane protein. Cytoplasm Note=Expressed on the cell surface in gastric epithelium, endothelial cells and fibroblasts and in the cytoplasm in keratinocytes and monocytes. Infection with human adenovirus 5 suppresses cell surface expression due to the adenoviral E3-19K protein which causes retention in the endoplasmic reticulum.

Tissue Location

Widely expressed with the exception of the central nervous system where it is absent. Expressed predominantly in gastric epithelium and also in monocytes, keratinocytes, endothelial cells, fibroblasts and in the outer layer of Hassal's corpuscles within the medulla of normal thymus. In skin, expressed mainly in the keratin layers, basal cells, ducts and follicles. Also expressed in many, but not all, epithelial tumors of lung, breast, kidney, ovary, prostate and colon. In thyomas, overexpressed in cortical and medullar epithelial cells. Tumors expressing MICA display increased levels of gamma delta T-cells.

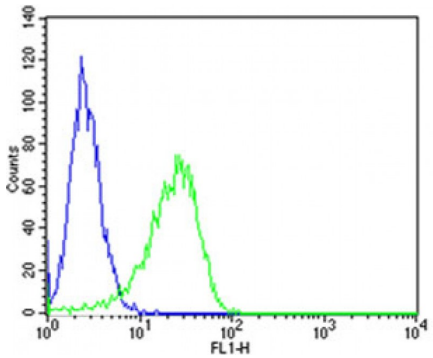
Background

MICA is the higly polymorphic MHC (HLA) class I chain-related gene A. The protein product is expressed on the cell surface, although unlike canonical class I molecules does not seem to associate with beta-2-microglobulin. It is thought that MICA functions as a stress-induced antigen that is broadly recognized by intestinal epithelial gamma delta T cells.

References

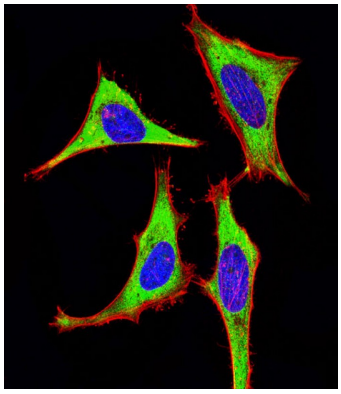
Bahram,S., et.al., Proc. Natl. Acad. Sci. U.S.A. 91 (14), 6259-6263 (1994) Klein,J.et.al., Proc. Natl. Acad. Sci. U.S.A. 91 (14), 6251-6252 (1994) Parham,P., et.al., J. Immunol. 142 (11), 3937-3950 (1989)

Images

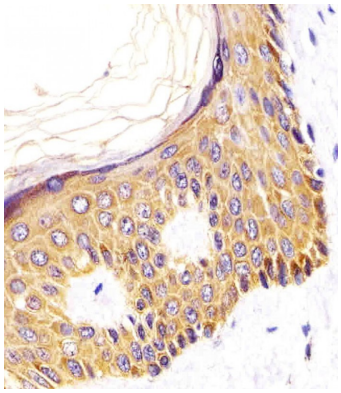


Flow cytometric analysis of SK-BR-3 cells using MICA Antibody (Center) (green, Cat#AP8626C) compared to an isotype control of rabbit IgG(blue). AP8626C was diluted at 1:25 dilution. An Alexa Fluor® 488 goat anti-rabbit lgG at 1:400 dilution was used as the secondary antibody.

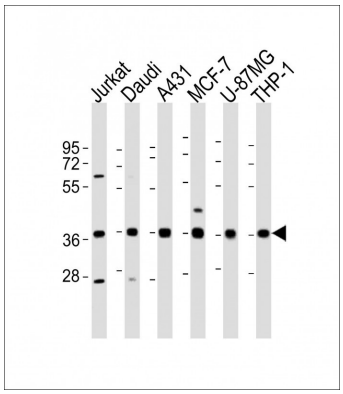
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized Hela (Human Cervical epithelial adenocarcinoma cell line) cells labeling MICA with AP8626c at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-rabbit IgG (NK179883) secondary antibody at 1/200 dilution (green). Immunofluorescence image showing cytoplasm staining on Hela cell line. Cytoplasmic actin is detected with



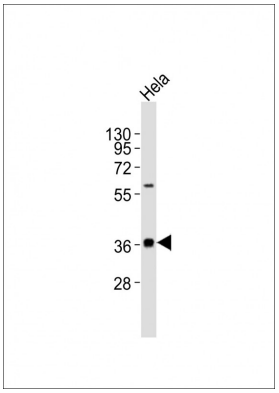
Dylight® 554 Phalloidin (PD18466410) at 1/100 dilution (red).The nuclear counter stain is DAPI (blue).



AW5477 staining MICA in Human skin tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



All lanes : Anti-MICA Antibody (Center) at 1:2000 dilution Lane 1: Jurkat whole cell lysates Lane 2: Daudi whole cell lysates Lane 3: A431 whole cell lysates Lane 4: MCF-7 whole cell lysates Lane 5: U-87MG whole cell lysates Lane 6: THP-1 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 43 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Anti-MICA Antibody (Center)at 1:1000 dilution + Hela whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 43 kDa Blocking/Dilution buffer: 5% NFDM/TBST.